

# S7 operation update

Eric Dufresne, TRR group meeting, June. 22, 2005

- Following a successful review of a new W mask for our P4, the mask was ordered and should be installed in the September shutdown.
- A new safety plan for MHATT/XOR has been approved by AOD on April 8, and is under review at XOR.
- In the May shutdown, Dohn Arms upgraded all our EPICS servers and clients their latest OS. The upgrade went well. All our beamline PCs now run XP, which has been very useful to run the CoolSNAP cameras. All beamline PCs now have new LCD displays. Dohn Arms also set up new ELOGs reserved for experiments.
- Note that the white beam microdiffraction set up was taken apart in 7ID-B. The large table inside the hutch was exchanged for a 4-circle diffractometer belonging to Sector 8. The 7ID-B in the future will have a 4-circle diffractometer and an imaging set up for time-resolved phenomena. A new roof labyrinth was also built to ease the access to the experimental hutch.
- 7ID-C and 7ID-D experiments now can rely on vacuum flight paths built by Don Walko! Now all our hutches flight paths can be evacuated to reduce air absorption and scattering.
- A new cable tray was built also to allow several of our controls station to move to the new partition adjacent to the experimental hall.

# A 3<sup>rd</sup> time for S7



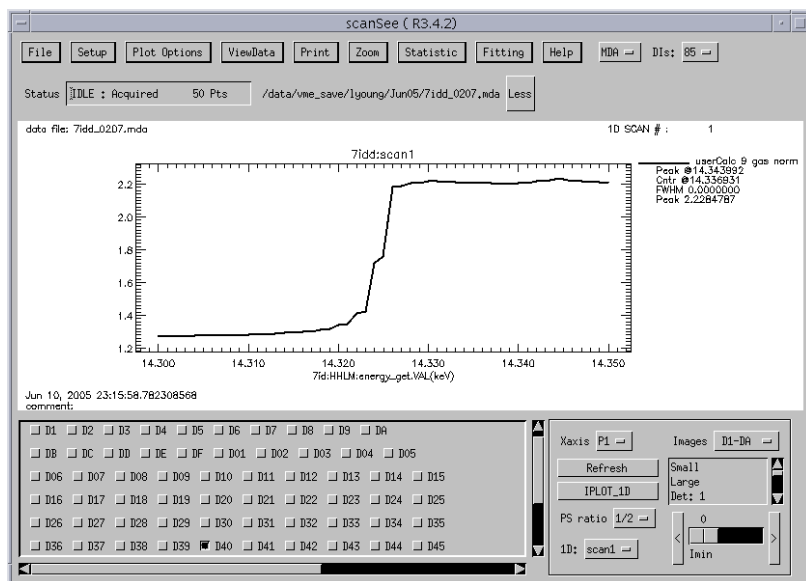
- Jeremy Robinson, student of Oscar Dubon from Berkeley, close collaborator of Don Walko, after receiving one of the APS User Meeting Student Poster Competition prize.
- Congratulations to Jeremy! It is the third time such an award is given to a student at S7.

# Cryogenics upgrade

The cryocooler was serviced this shutdown, and a new roof platform was built to move the cryocooler in the future to the roof of 7ID-A. This move should occur in the next shutdown and is motivated by safety, beam stability and space constraints.



# Monochromator scanning problems



In early June, several shifts were consumed by investigating these steps in the Kr edge (also seen on the Br edge). Nothing to date has fixed it, but we are trying to commission the Mono Huber Bragg angle Heidenhain encoder to provide some angular position readback.

# New laser enclosure built in May



# Hybrid singlet run

- The elusive pondermotive shift of the K-edge could not be observed due to the mono failure. The monochromator failed to scan energy reproducibly and smoothly.
- However, the AMO collaboration have demonstrated a new x-ray polarization probe of tunneling ionization - a definitive method to probe the magnetic sublevel dependence of tunneling ionization. Towards the end of the run, they took data on laser induced molecular dissociation, a prelude to molecular alignment studies which will be conducted in future runs.
- The laser had 100% reliability with a power drift of  $< 1\%$  rms for the entire 2.5 week beamtime. It was the first run that the long pulse (100ps) could be delivered simultaneously with the short pulse (40 fs). The hybrid mode ran with 16 mA!